

PENDING CLAIMS AS AMENDED

Please amend the claims as follows:

1. (Original) A method for time synchronizing a second base station with a first base station comprising:

measuring a round trip delay interval of transmissions from the first base station to a mobile station in communication with the first base station and back from the mobile station to the first base station;

receiving at the second base station communications transmitted by the mobile station and noting the time of reception;

determining an estimate of a delay which occurs between transmission by the mobile station and reception by the second base station; and

computing a timing correction value in accordance with said estimate of the delay, said noted time of reception, and said measured round trip delay interval.

2. (Original) The method of claim 1 further comprising receiving at the second base station a message indicative of the identity of the mobile station to assist the second base station in said receiving communications from the mobile station.

3. (Original) The method of claim 2 further comprising sending the message indicative of the identity of the mobile station from the first base station to the second base station.

4. (Original) The method of claim 3 wherein said sending the message from the first base station to the second base station comprises:

sending the message from the first base station to the second base station via a base station controller in communication with the first base station and the second base station.

5. (Original) The method of claim 3 wherein said sending the message from the first base station to the second base station comprises:

receiving at the first base station communications from a plurality of mobile stations;
selecting a mobile station most likely to be able to communicate with the second base station; and

sending the message indicative of the identity of the mobile station.

6. (Original) The method of Claim 5 wherein said selecting a mobile station most likely to be able to communicate with the second base station comprises:

selecting a mobile station furthest from the first base station.

7. (Canceled)

8. (Original) The method of Claim 5 wherein said selecting a mobile station most likely to be able to communicate with the second base station comprises:

selecting a mobile station in accordance with the state of a PN spreader in the mobile station.

9. (Original) The method of claim 5 wherein said selecting a mobile station most likely to be able to communicate with the second base station comprises:

selecting a mobile station in accordance with the sector of the first base station being used for communication with the mobile station.

10. (Original) The method of claim 5 wherein said selecting a mobile station most likely to be able to communicate with the second base station comprises:

selecting a mobile station in accordance with said measured round trip delay interval.

11. (Original) An apparatus for time synchronizing a second base station with a first base station comprising:

a first base station configured to:

Attorney Docket No.: PA453B1A1C1
Customer No.: 23696

measure a round trip delay interval of transmissions from said first base station to a mobile station in communication with said first base station and back from the mobile station to said first base station; and

a second base station configured to:

receive communications transmitted by the mobile station and noting the time of reception;

determine an estimate of a delay which occurs between transmission by the mobile station and reception by said second base station; and

compute a timing correction value based upon the estimate of the delay, the time of reception, and the measured round trip delay interval.

12. (Original) The apparatus of claim 11 wherein said second base station is further configured to receive a message indicative of the identity of the mobile station to assist said second base station to receive communications from the mobile station.

13. (Original) The apparatus of claim 12 wherein said first base station is further configured to send the message indicative of the identity of the mobile station to said second base station.

14. (Original) The apparatus of claim 13 wherein said first base station is further configured to send the message to said second base station via a base station controller in communication with said first base station and said second base station.

15. (Original) The apparatus of claim 13 wherein said first base station is further configured to:

receive communications from a plurality of mobile stations; and

select a mobile station most likely to be able to communicate with said second base station.

16. (Original) The apparatus of Claim 15 wherein said first base station is configured to select the mobile station most likely to be able to communicate with said second base station as a mobile station furthest from said first base station.

17. (Canceled)

18. (Original) The apparatus of Claim 15 wherein said first base station is configured to select the mobile station most likely to be able to communicate with said second base station in accordance with the state of a PN spreader in the mobile station.

19. (Original) The apparatus of claim 15 wherein said first base station is configured to select the mobile station most likely to be able to communicate with said second base station in accordance with the sector of said first base station being used for communication with the mobile station.

20. (Original) The apparatus of claim 15 wherein said first base station is configured to select the mobile station most likely to be able to communicate with said second base station in accordance with said measured round trip delay interval.

Claims 21-30. (Canceled)

31. (Currently Amended) A method for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

disabling a transmission from the base station;

obtaining initial timing at the base station;

receiving at the base station signals transmitted from a mobile station, including:

(i) providing to the base station information about ~~identify~~ the identity of the mobile station;

(ii) estimating at the base station the distance to the mobile station in accordance with a first round trip delay interval of transmissions from a first

base station to the mobile station in communication with the first base station and back from the mobile station to the first base station, and a second round trip delay interval of transmissions from a second base station to the mobile station in communication with the second base station and back from the mobile station to the second base station; and

(iii) receiving at the base station signals transmitted from the mobile station in accordance with the ~~provide~~ provided information and the estimated distance; and

adjusting timing of the base station in accordance with the received signals.

32. (Previously Presented) A method for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

disabling a transmission from the base station;

obtaining initial timing at the base station in accordance with a timing signal provided from a base station controller;

receiving at the base station signals transmitted from a mobile station; and

adjusting timing of the base station in accordance with a time offset between an estimated PN offset of the mobile station and an actual PN offset of the mobile station.

Claim 33. (Canceled)

34 (Previously Presented) A method for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

disabling a transmission from the base station;

obtaining initial timing at the base station in accordance with a timing signal provided from a base station controller;

receiving at the base station signals transmitted from a mobile station;

adjusting timing of the base station in accordance with the received signals;

providing the mobile station with a pilot PN code offset of the base station; and

transmitting signals at successively increasing power levels from the base station in accordance with the adjusted timing until the mobile station detects the transmitted signals.

35. (Canceled)

36. (Currently Amended) The method of claim 34 further comprising:
synchronizing timing of the base station with at least one other base station communicating with the mobile station.

37. (Currently Amended) The method of claim 36 wherein said synchronizing timing of the base station with the at least one other base station communicating with the mobile station comprises:

initiating a communication between the base station and the mobile station;

measuring a first round trip delay interval of transmissions from the base station to the mobile station in communication with the base station and back from the mobile station to the base station;

measuring a second round trip delay interval of transmissions from the at least one other base station communicating with the mobile station and back from the mobile station to the at least one other base station communicating with the mobile station;

measuring at the mobile station a time difference between the time of receipt of a transmission from the at least one other base station communicating with the mobile station and the time of receipt of a transmission from the base station communicating with the mobile station; and

computing a timing correction value based upon, said measured first round trip delay interval, said measured second round trip delay interval, and said measured time difference.

38. (Currently Amended) The method of claim 36 further comprising:

repeating said synchronizing timing of the base station with the at least one other base station communicating with the mobile station for all mobile stations within the coverage area of the base station.

39. (Currently Amended) The method of claim 36 wherein synchronizing timing of the base station with the at least one other base station communicating with the mobile station comprises the method as claimed in claim 1.

Claims 40-49. (Canceled)

50. (Currently Amended) An apparatus for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

a transmitter;

a processor communicatively coupled to the transmitter, the processor being configured to execute a set of instructions to adjust timing of the base station in accordance with the received signals, obtain information about identity of a mobile station, and estimate a distance from the base station to the mobile station by estimating a first round trip delay interval of transmissions from a first base station to the mobile station in communication with the first base station and back from the mobile station to the first base station, and estimating a second round trip delay interval of transmission from a second base station to the mobile station in communication with the second base station and back from the mobile station to the second base station;

a storage medium coupled to the processor and containing another set of instructions executable by the processor to disable the transmitter and obtain initial timing; and

a receiver, communicatively coupled to the processor, configured to receive signals transmitted from the mobile station, ~~adjust timing of the base station in accordance with the received signals, and receive signals transmitted from the mobile station in accordance with the provide information and the estimated distance.~~

51. (Previously Presented) An apparatus for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

a transmitter;

a processor communicatively coupled to the transmitter, the processor being configured to execute a set of instructions to adjust timing of the base station in accordance with a time offset between an estimated PN offset of the mobile station and an actual PN offset of the mobile station;

a receiver, communicatively coupled to the processor, configured to receive signals transmitted from the mobile station; and

a storage medium coupled to the processor and containing another set of instructions executable by the processor to disable the transmitter and obtain initial timing.

52. (Canceled)

53. (Previously Presented) An apparatus for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

a transmitter;

a processor communicatively coupled to the transmitter, wherein the processor executes a set of instructions to adjust timing of the base station in accordance with received signals;

a receiver, communicatively coupled to the processor, configured to receive the received signals transmitted from a mobile station; and

a storage medium coupled to the processor and containing another set of instructions executable by the processor to disable the transmitter and obtain initial timing;

wherein the mobile station being configured to obtain information about a pilot PN code of the base station and the transmitter being configured to transmit signals at successively increasing power levels from the base station in accordance with the adjusted timing until the mobile station detects the transmitted signal.

54. (Canceled)

55. (Previously Presented) An apparatus for synchronizing a base station with a wireless communication system upon the base station's power up, comprising:

a transmitter;

a processor communicatively coupled to the transmitter, wherein the processor executes a set of instructions to adjust timing of the base station in accordance with received signals, and to synchronize timing of the base station with at least one base station communicating with a mobile station;

a receiver, communicatively coupled to the processor, configured to receive the received signals transmitted from the mobile station; and

a storage medium coupled to the processor and containing another set of instructions executable by the processor to disable the transmitter and obtain initial timing.

56. (Previously Presented) The apparatus of claim 55 wherein the processor synchronizes timing of the base station with at least one base station communicating with the mobile station by executing a set of instructions to:

initiate a communication between the base station and the mobile station;

measure a first round trip delay interval of transmissions from the base station to the mobile station in communication with the base station and back from the mobile station to the base station;

measure a second round trip delay interval of transmissions from the at least one base station communicating with the mobile station and back from the mobile station to the at least one base station communicating with said mobile; and

compute a timing correction value in accordance with the first round trip delay interval, the second round trip delay interval, and a time difference provided by the mobile station; and wherein

the mobile station is configured to:

measure the time difference between the time of receipt of a transmission from the at least one base station communicating with the mobile station and the time of receipt of a transmission from the base station.

57. (Previously Presented) The apparatus of claim 54 wherein the processor repeats the synchronizing timing of the base station with at least one base station communicating with the mobile station for all mobile stations within the coverage area of the base station.

58. (Previously Presented) The apparatus of claim 54 further comprising the apparatus as claimed in claim 11.